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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/512,051

11/10/2004

Akihiko Ito

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EXAMINER

VELEZ, ROBERTO

ART UNIT

PAPER NUMBER

2829

NOTIFICATION DATE

DELIVERY MODE

05/09/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com.

Office Action Summary

Application No.

10/512,051

Applicant(s)

ITO ET AL.

Examiner

Roberto Velez

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2007.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-14 and 16-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-14 and 16-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/04, 11/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 11-14 and 16-18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 11-13 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Maeng (US Pat. 6,563,331)**, **Sakai (US Pat. 5,650,732)** and further in view of **Buermann (US Pat. 6,811,370)**.

Regarding claim 11, **Maeng** shows (Figures 1-4) a test and burn-in apparatus, in-line system using the test and burn-in apparatus, and test method using the in-line system comprising: at least one moving means [34, 36, 38, 40] capable of gripping a plurality of said strip formats [10] at a loading position of pre-test electronic devices (Column 7, Lines 58-60), while conveying said gripped strip formats [10] to said contact portions [23] without reloading said electronic devices from said strip formats [10], and (Column 8, Lines 1-8) while pressing (inherently, in order to connect the input/output terminals to said contact portions, there must be some pressing action involved to complete the task) input/output

terminals of said electronic devices against said contact portions [23] at the same time while said electronic devices are being loaded on said strip formats [10].

Maeng fails to disclose at least one moving means capable of simultaneously gripping a plurality of said strip formats. However, **Sakai** discloses (Column 5, Lines 18-25) at least one moving means [21] capable of simultaneously gripping a plurality of said strip formats [9].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of **Sakai** into the device of **Maeng** by having at least one moving means capable of simultaneously gripping a plurality of said strip formats. The ordinary artisan would have been motivated to modify **Maeng** in the manner set forth above for the purpose of improving the equipment operation ratio because the lot size operation in a time can be doubled or more without any limit.

The combination of **Maeng** and **Sakai** fails to disclose at least one moving means arranged along the planar direction of said strip formats. However, **Buermann** shows (Figures 1-3) at least one moving means [26, 30, 38a] arranged along the planar direction of said strip formats [34].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of **Buermann** into the device of the combination of **Maeng** and **Sakai** by providing at least one moving means arranged along the planar direction of said strip formats. The ordinary artisan would have been motivated to modify the combination of **Maeng** and **Sakai** in the

manner set forth above for the purpose of contacting the electronic devices with the testing device from above without intervening with the translation operation of the at least one moving means.

Regarding claim 12, the combination of **Maeng**, **Sakai** and **Buermann** discloses everything as claimed above in claim 1; in addition, **Maeng** shows (Figures 1-4) wherein said moving means [34, 36, 38, 40] is capable of freely selecting the gripping number [10] within the number able to be gripped (Column 8, Lines 35-38 and 45-47).

Regarding claim 13, the combination of **Maeng**, **Sakai** and **Buermann** discloses everything as claimed above in claim 1; in addition, **Maeng** shows (Figures 1-4) wherein said moving means [34, 36, 38, 40] is capable (Column 8, Lines 35-38 and 45-47) of freely selecting the gripping number [10] being independent from other means (each moving means works independently).

Regarding claim 16, the combination of **Maeng**, **Sakai** and **Buermann** discloses everything as claimed above in claim 1; in addition, **Maeng** shows (Figures 1-4) wherein each of said moving means [34, 36, 38, 40] grips and moves (Column 8, Lines 35-38 and 45-47) said strip format [10] from said contact portions [23] to a loading (using 34, 36, 38, 40) position of post-test electronic devices.

Regarding claim 17, the combination of **Maeng**, **Sakai** and **Buermann** discloses everything as claimed above in claim 1; in addition, **Maeng** discloses

(Column 8, Lines 22-26) wherein a sum of the numbers of contact portions in said test head [23] is 2^n .

Regarding claim 18, the combination of **Maeng**, **Sakai** and **Buermann** discloses everything as claimed above in claim 1; in addition, **Maeng** discloses (Column 8, Lines 22-26) wherein $n=5$ or $n=6$.

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Maeng** (*US Pat. 6,563,331*), **Sakai** (*US Pat. 5,650,732*) and **Buermann** (*US Pat. 6,811,370*) as applied to claim 11, and further in view of **Kim et al.** (*US Pat. 6,518,745*).

Regarding claim 14, combination of **Maeng**, **Sakai** and **Buermann** discloses everything as claimed above in claim 11.

The combination of **Maeng**, **Sakai** and **Buermann** fails to disclose wherein said any two or more moving means among said plurality of moving means have a substantially overlapping operation range on a contact group as a set of said contact portions. However, **Kim et al.** shows (Fig. 1) wherein said any two or more moving means [33, 32] among said plurality of moving means have a substantially overlapping operation range on a contact group [21, 22, 23] as a set of said contact portions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of **Kim et al.** into the device of the combination of **Maeng**, **Sakai** and **Buermann** by having an overlapping operation range on a contact group among a plurality of moving means. The

ordinary artisan would have been motivated to modify the combination of **Maeng**, **Sakai** and **Buermann** in the manner set forth above for the purpose of providing a faster way to test all the semiconductor devices.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
6. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberto Velez whose telephone number is 571-272-8597. The examiner can normally be reached on Monday-Friday 8:00am-4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nguyen Ha can be reached on 571-272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



HA TRAN NGUYEN
SUPERVISORY PATENT EXAMINER



Roberto Velez
Patent Examiner